



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/739,439	12/18/2003	Anatoly Z. Rosenflanz	58797US002	9260

32692 7590 04/27/2005

3M INNOVATIVE PROPERTIES COMPANY  
PO BOX 33427  
ST. PAUL, MN 55133-3427

EXAMINER
----------

MARCHESCHI, MICHAEL A

ART UNIT	PAPER NUMBER
----------	--------------

1755

DATE MAILED: 04/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/739,439

Applicant(s)

ROSENFLANZ ET AL.

Examiner

Michael A. Marcheschi

Art Unit

1755

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1018 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 6/15/04, 8/13/04, 8/16/04, 10/24/04
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

Art Unit: 1755

Claims 6, 10, 13 and 16-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 6, 10, 13 and 18 are indefinite because the examiner is unclear as to what is meant by "comprising laminae". Does this mean that (1) the entire material is a laminae, (2) the laminae is of a eutectic, (3) the individual crystallinities are laminae (plates) or (4) a separate layer within the ceramic or particle is a laminae?

Claims 10 and 18 are also indefinite because the term "eutectic" lacks antecedent basis since a eutectic has not been literally defined before.

Claim 16 is indefinite because it is only directed to a ceramic but claim 8 is specifically directed to particles and the broad interpretation of ceramic is outside the scope of particles, thus claim 16 is outside the scope of claim 8.

Claim 17 is indefinite because it depends on an indefinite claim

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(c) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Art Unit: 1755

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-18 are rejected under 35 U.S.C. 103(a) as obvious over Kasai et al. (811).

The reference teaches in the abstract, sections [0031], [0036], [0047]-[0048] and [0070] and the claims, a transparent fused glass ceramic (can comprise more than one crystal-polycrystalline) material (particle having the claimed size) comprising alumina and zirconia in amounts which overlap the claimed amounts.

The references teach transparent fused glass ceramic and the broad interpretation of glass ceramic encompasses a ceramic. With respect to the crystalline limitation, the reference material contains crystallinity. Applicants do not define what is meant by crystalline in terms of the amount of the crystalline phase present. Absent any limitation which defines the amount of crystalline phase present, the broad interpretation of this claim meets the teaching of a glass ceramic (contains a crystallinity). With respect to the amounts of alumina and zirconia, the reference teaches amounts which overlap the claimed amounts and therefore the subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness, see

Art Unit: 1755

*In re Malagari*, 182 U.S.P.Q. 549; *In re Wertheim* 191 USPQ 90 (CCPA 1976). In view of this, the limitations of claims 1-5 and 7-9 are met.

With respect to the method, the reference teaches in sections [0064]-[0070] and claim 18, that the starting components are melted (flame) at a specified temperature to form droplets (these are shaped materials, thus implying the claimed shaping step) and quenched. The quenched material can be crushed to form particles of a size desired for the final beads [0067]. In view of the remarks defined above coupled with these teachings, the limitation of claims 11-12, 14, 15, 16 and 17 are met.

With respect to the limitations of claims 6, 10, 13 and 18, it is the examiners position that the teachings in section [0031] encompasses the claimed limitation because the microstructure can comprise a nonsocial microstructure and this implies that nanometer laminae can present. Fused materials can also contain eutectics thus the above claimed limitations are met.

Claims 1-5 and 7-9 are rejected under 35 U.S.C. 103(a) as obvious over either Wood et al. (511) and Wood et al. (299).

Wood et al. (511) teaches in the abstract and the claims, a transparent crystalline (can be polycrystalline) material (particle having the claimed size) comprising alumina and zirconia in a specified molar ratio.

Wood et al. (299) teach in the abstract, column 2, lines 39-40, column 7, lines 15-17, column 14, lines 37-40 and the claims, a transparent crystalline (can be polycrystalline) material (particle having the claimed size) comprising alumina and zirconia in amounts which overlap the claimed amounts.

Art Unit: 1755

The references teach transparent crystalline (or polycrystalline) ceramics which comprises all of the claimed components in overlapping amounts when compared to the claimed amounts (molar ratio of Wood et al. (511) when converted to weight percent overlaps the claimed amounts). In view of this, the subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness, see *In re Malagari*, 182 U.S.P.Q. 549; *In re Wertheim* 191 USPQ 90 (CCPA 1976).

The examiner acknowledges that the reference does not teach the fused limitation but one skilled in the art would have appreciated that the materials defined by the reference can be of a similar microstructure and thus be within the broad interpretation of "fused". In addition, applicants do not adequately describe the fused limitation in the specification as only pertaining to microspheres made by a melt process. Applicants must shown clear and convincing evidence that that the beads of the reference are distinct from the claimed beads (in terms of the microstructure, etc).

In view of the teachings as set forth above, it is the examiners position that the references reasonably teach or suggest the limitations of the rejected claims.

**A reference is good not only for what it teaches but also for what one of ordinary skill might reasonably infer from the teachings. *In re Opprecht* 12 USPQ 2d 1235, 1236**

Art Unit: 1755

(CAFC 1989); *In re Bode* USPQ 12; *In re Lamberti* 192 USPQ 278; *In re Bozek* 163 USPQ 545, 549 (CCPA 1969); *In re Van Mater* 144 USPQ 421; *In re Jacoby* 135 USPQ 317; *In re LeGrice* 133 USPQ 365; *In re Preda* 159 USPQ 342 (CCPA 1968). In addition, "A reference can be used for all it realistically teaches and is not limited to the disclosure in its preferred embodiments" See *In re Van Marter*, 144 USPQ 421.

A generic disclosure renders a claimed species *prima facie* obvious. *Ex parte George* 21 USPQ 2d 1057, 1060 (BPAI 1991); *In re Woodruff* 16 USPQ 2d 1934; *Merk & Co. v. Biocraft Lab. Inc.* 10 USPQ 2d 1843 (Fed. Cir. 1983); *In re Susi* 169 USPQ 423 (CCPA 1971).

The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a *prima facie* case of obviousness, see *In re Malagari*, 182 U.S.P.Q. 549; *In re Wertheim* 191 USPQ 90 (CCPA 1976).

Evidence of unexpected results must be clear and convincing. *In re Lohr* 137 USPQ 548. Evidence of unexpected results must be commensurate in scope with the subject matter claimed. *In re Linder* 173 USPQ 356.

The references cited on the 1449 have been reviewed by the examiner and are considered to be art of interest since they are cumulative to or less than the art relied upon in the above rejections.

Any foreign language documents submitted by applicant has been considered to the extent of the short explanation of significance, English abstract or English equivalent, if

Art Unit: 1755

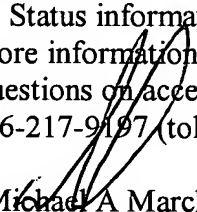
appropriate. Document C37 listed on the 1449 filed 6/15/04 has not been considered because applicants fails to submit a copy of this document, in its entirety. Applicants also fail to define the relevant passages from this book.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael A. Marcheschi whose telephone number is (571) 272-1374. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on (571) 272-1233. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

4/05  
MM

  
Michael A. Marcheschi  
Primary Examiner  
Art Unit 1755